

Appl. No. : 09/452,844
Filed : December 3, 1999

REMARKS

Claims 1, 3-30, 33-35 and 55-63 are pending in the present application and stand rejected on a variety of grounds, each of which is addressed below. Claims 3-6, 9, 11, 14, 16, 18, 19-20, 2328, 30, 55, 60 and 63 are amended. Claims 1, 8, 12 and 18 are cancelled herein.

The present amendments are fully supported by the specification and claims as originally filed and do not add new matter. Claim 9 been amended to incorporate the subject matter of Claims 1 and 8. Claim 63 has been amended to incorporate the subject matter of Claims 8 and 9. Claims 16, 19 and 60 were rewritten in independent form as suggested by the Examiner. The corresponding dependent claims have been amended have been amended in view of the changes to the independent claims. Claims 30 and 55 were amended to recite formation of a dielectric layer having a dielectric constant greater than or equal to about 20. Support for this amendment can be found, for example, in original Claim 13. Support for new Claim 67 can be found, for example, in original Claim 1 and at page 17, lines 25-31.

Allowable Subject Matter

Applicants are pleased to note that Claims 9-10, 16, 19 and 60 were found to be allowable if rewritten in independent form, including all of the limitations of the base claim and any intervening claims.

Claim 9 has been amended herein to incorporate the subject matter of Claim 1 and Claim 8, from which it depends. Claim 8 has been canceled, while Claims 1, 11, 14, 18, 20 and 28 have been amended to depend from Claim 9. As a result, Claims 1-7, 9-11, 13-15, 17-18, and 20-29 are believed to be in condition for allowance.

In addition, Claims 16, 19 and 60 were rewritten in independent form as suggested by the Examiner and thus are believed to be in condition for allowance.

Claim Rejections Under 35 U.S.C. §102

Claims 1, 3, 8, 11-15, 17-18, 20-27, 30, 33-35, 55-58 and 61-63 were rejected under 35 U.S.C. §102(e) as anticipated by U.S. Patent No. 6,355,240 (Kim et al.).

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Claims 1 and 8 are cancelled. Claims 3, 11, 13-15, 17-18 and 20-27 have been amended to depend from Claim 9, which has been amended into allowable form as discussed above. Thus, withdrawal of the rejection with respect to these claims is requested.

Claims 30 and 55 have been amended to recite a dielectric layer with a dielectric constant greater than or equal to about 20. Claims 33-35 depend from Claim 30 and Claims 56-58 and 61-62 depend from Claim 55. As Kim et al. does not teach or suggest deposition of a dielectric layer with a dielectric constant greater than or equal to about 20, Applicants respectfully request the withdrawal of the rejection under §102(e).

Claim 63 has been amended to recite the deposition of a dielectric layer comprising silicon, oxygen and another metal. As this feature is not disclosed or suggested by Kim et al., Applicants submit that the rejection of Claim 63 under §102(e) is no longer appropriate and should be withdrawn.

New Claim 64 recites a dielectric layer selected from the group consisting of tantalum oxide, titanium oxide, zirconium oxide, hafnium oxide and mixtures and compounds thereof. As the teachings in Kim et al. are limited to a dielectric layer of aluminum oxide, Applicants respectfully submit Claim 64 is not anticipated by Kim et al..

Claim Rejections Under 35 U.S.C. §103

Claims 3-7 and 28-29 were rejected under 35 U.S.C. §103(a) as unpatentable over Kim et al. in view of U.S. Patent No. 6,270,572 (Kim2).

Claims 3-7 and 28-29 have been amended to depend from Claim 9, which was rewritten in independent form. As Claim 9 was found to be allowable, Applicants request withdrawal of the rejection of Claims 3-7 and 28-29 under 35 U.S.C. §103(a).

Claim 59 was rejected as being unpatentable as obvious in view of the teachings of Kim et al. without any secondary reference. As discussed above, Kim et al. does not teach deposition of a dielectric layer with a dielectric constant greater than or equal to about 20 as recited in amended Claim 55. Claim 59 depends from Claim 55. Thus, Applicants submit that the rejection under 35 U.S.C. §103(a) should be withdrawn.

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Conclusion

In view of the amendments and arguments presented above, Applicants submit that the present application is in condition for allowance. If any issues remain, the Examiner is cordially invited to contact Applicants' representative at the number provided below in order to resolve such issues promptly.

Respectfully submitted,

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